

## WHAT IS CLAIMED IS:

- 1           1.       An apparatus configured to control an automation function, comprising:  
2                       one or more automation modules connectable into an assembly, each  
3 automation module including,  
4                       a data interface for exchanging data with other automation modules  
5 of the one or more automation modules;  
6                       a processor coupled to the data interface; and  
7                       a functional component operable by the processor for performing an  
8 independent automation task; and  
9                       wherein the data interfaces of the one or more automation modules are  
10 coupled to exchange data communications for coordinating the respective functional  
11 components of the automation modules to perform the automation function.
- 1           2.       The apparatus as in Claim 1, wherein the data interfaces of the one or more  
2 automation modules are configured to transfer data via an electrical power interface.
- 1           3.       The apparatus as in Claim 1, wherein the data interfaces of the automation  
2 modules are accessible via a computing arrangement.
- 1           4.       The apparatus as in Claim 3, wherein the computing arrangement actively  
2 controls the automation function.
- 1           5.       The apparatus as in Claim 3, wherein the computing arrangement is  
2 configured to communicate a configuration to the apparatus for coordinating the functional  
3 components, and wherein the processors of the automation modules are configured to  
4 perform the automation function based on the configuration.
- 1           6.       The apparatus as in Claim 1, wherein the one or more automation modules  
2 include a wireless communications module.

1           7.       The apparatus as in Claim 6, wherein the wireless communications module  
2 includes a cellular communications module compatible with a cellular communications  
3 network.

1           8.       The apparatus as in Claim 7, wherein the cellular communications module  
2 is arranged to receive data from a mobile terminal to control at least one of the automation  
3 modules.

1           9.       The apparatus as in Claim 7, wherein the cellular communications module  
2 is arranged to send data to a mobile terminal to communicate data originating from at least  
3 one of the automation modules.

1           10.      The apparatus as in Claim 1, wherein the independent automation task  
2 comprises at least one of data input, control output, and external communications.

1           11.      The apparatus as in Claim 1, wherein the one or more automation modules  
2 further comprise a mechanical interface providing a physical attachment to other  
3 automation modules of the one or more automation modules.

1           12.      A method for performing an automatic control function, comprising:  
2                    providing a first and second automation module, each automation module  
3 configured for performing an independent function;  
4                    connecting the first and second automation modules into an assembly;  
5                    coordinating the independent functions of the first and second automation  
6 modules by communicating data between the first and second automation modules; and  
7                    performing the automatic control function based on the coordinated  
8 independent functions of the first and second automation modules.

1           13.      The method of Claim 12, further comprising communicating a control  
2 command from a mobile terminal to at least one of the automation modules.

1           14.     The method of Claim 12, further comprising communicating data  
2     originating from at least one of the automation modules to a mobile terminal.

1           15.     The method of Claim 12, wherein coordinating the independent functions of  
2     the first and second automation modules further includes communicating from a  
3     computing arrangement to the automation modules a configuration for coordinating the  
4     independent functions of the first and second automation modules.

1           16.     The method of Claim 12, wherein performing the automatic control  
2     function includes communicating commands from a computing arrangement to the  
3     automation modules to coordinate the functions of the first and second automation  
4     modules.

1           17.     The method of Claim 12, wherein the independent functions of the first and  
2     second automation modules comprise at least one of data input, control output, and  
3     external communications.

1           18.     The method of Claim 12, wherein coupling the first and second automation  
2     modules into an assembly comprises mechanically attaching the first automation module to  
3     the second automation module.

1           19.     A system for controlling an automation function, the system comprising:  
2                     two or more control devices each formed from one or more automation  
3 modules connectable into an assembly, each automation module including,  
4                     a data interface for exchanging data with other automation modules  
5 of the one or more automation modules;  
6                     a processor coupled to the data interface;  
7                     a functional component operable by the processor for performing an  
8 independent automation task; and  
9                     wherein the data interfaces of the one or more automation modules are  
10 coupled to exchange data communications for coordinating the respective functional  
11 components of the automation modules to perform a function of the control device; and  
12                     wherein the control devices are configured to communicate with each other  
13 via the data interfaces of at least one of the automation modules of the respective control  
14 devices to coordinate the functions of the respective control devices to perform the  
15 automation function.

1           20.     The system as in Claim 19, wherein the data interfaces of the automation  
2 modules are configured to transfer data via an electrical power interface.

1           21.     The system as in Claim 19, further comprising a computing arrangement  
2 coupled to communicate with the automation modules.

1           22.     The system as in Claim 21, wherein the computing arrangement actively  
2 controls the automation function.

1           23.     The system as in Claim 21, wherein the computing arrangement is  
2 configured to communicate a configuration to the control devices to coordinate the  
3 functions of the control devices, and wherein the processors of the automation modules are  
4 configured to perform the functions of the control devices based on the configuration.

1           24.     The system as in Claim 19, wherein the automation modules include a  
2     wireless communications module.

1           25.     The system as in Claim 24, wherein the wireless communications module  
2     includes a cellular communications module compatible with a cellular communications  
3     network.

1           26.     The system as in Claim 25, further comprising a mobile terminal arranged  
2     to communicate data with the cellular communications module.

1           27.     The system as in Claim 19, wherein the independent automation task  
2     comprises at least one of data input, control output, and external communications.

1           28.     The system as in Claim 19, wherein the one or more automation modules  
2     further comprise a mechanical interface providing a physical attachment to other  
3     automation modules of the one or more automation modules.

1           29.     A computer-readable medium configured with instructions for causing a  
2     processor of a data processing arrangement to perform steps comprising:  
3                 establishing communications with one or more automation modules  
4     connected into an assembly, the one or more automation modules being in data  
5     communication with each other, each automation module configured for performing an  
6     independent automation task;  
7                 receiving data from the automation modules that describes the independent  
8     automation task associated with the automation modules;  
9                 providing a user interface to create a data set used to coordinate the  
10    independent automation tasks of the automation modules to perform an automation  
11    function; and  
12                 communicating the data set to at least one of the automation modules to  
13    perform the automation function.

1           30.    The computer-readable medium as in Claim 29, providing a user interface  
2 to create the data set includes providing a graphical user interface having graphical  
3 components representing the one or more automation modules.

1           31.    The computer-readable medium as in Claim 30, wherein the data set is  
2 created by providing user-created graphical components representing coordinations  
3 between the independent automation tasks of the two or more automation modules.

1           32.    The computer-readable medium as in Claim 29, wherein the independent  
2 automation tasks of the automation modules comprise at least one of data input, control  
3 output, and external communications.

1           33.    An automation module operable with other automation modules for  
2 performing an automation function, comprising:  
3           means for connecting with the other automation modules to form an automation  
4 assembly;  
5           means for performing an independent automation task; and  
6           means for exchanging data with other automation modules of the assembly to  
7 coordinate the independent automation task with one or more independent automation  
8 tasks of the other automation modules to perform the automation function.